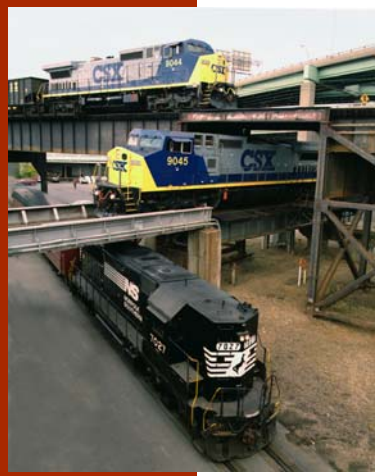
DRPT
Virginia Department of Rail and Public Transportation



Draft Statewide Rail Plan

Kevin Page
Chief of Rail Transportation

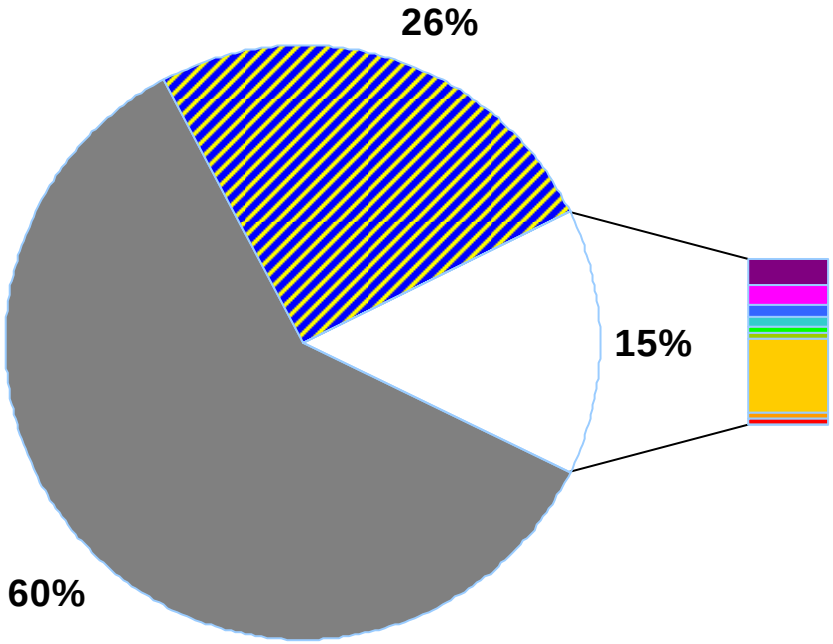
Overview

- Virginia Rail System
- Setting the Stage
- Rail Benefits
- Proposed Improvements
- Cost Assumptions
- Class I and Shortline Railroads
- Port Projects
- Passenger Rail Initiatives
- High Speed Rail
- Total Project Benefits
- Funding
- Next Steps

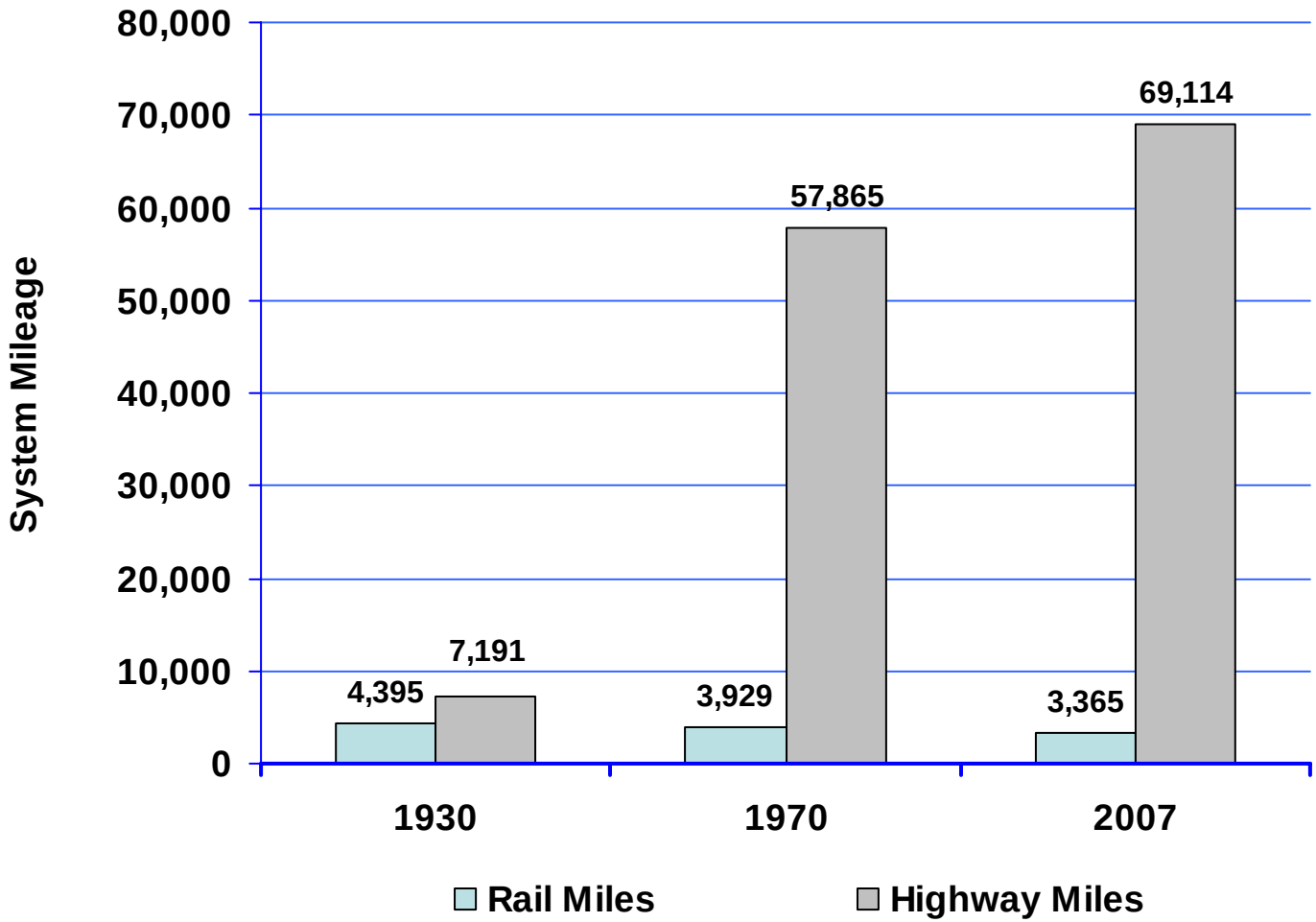
Virginia Rail System

- **Two passenger rail operators – Amtrak and Virginia Railway Express**
- **Twelve freight railroads –**
  - **Two national Class I Railroads: Norfolk Southern and CSX**
  - **Ten local shortline railroads**

Virginia's Current Rail System
Privately-Owned by Freight Railroads

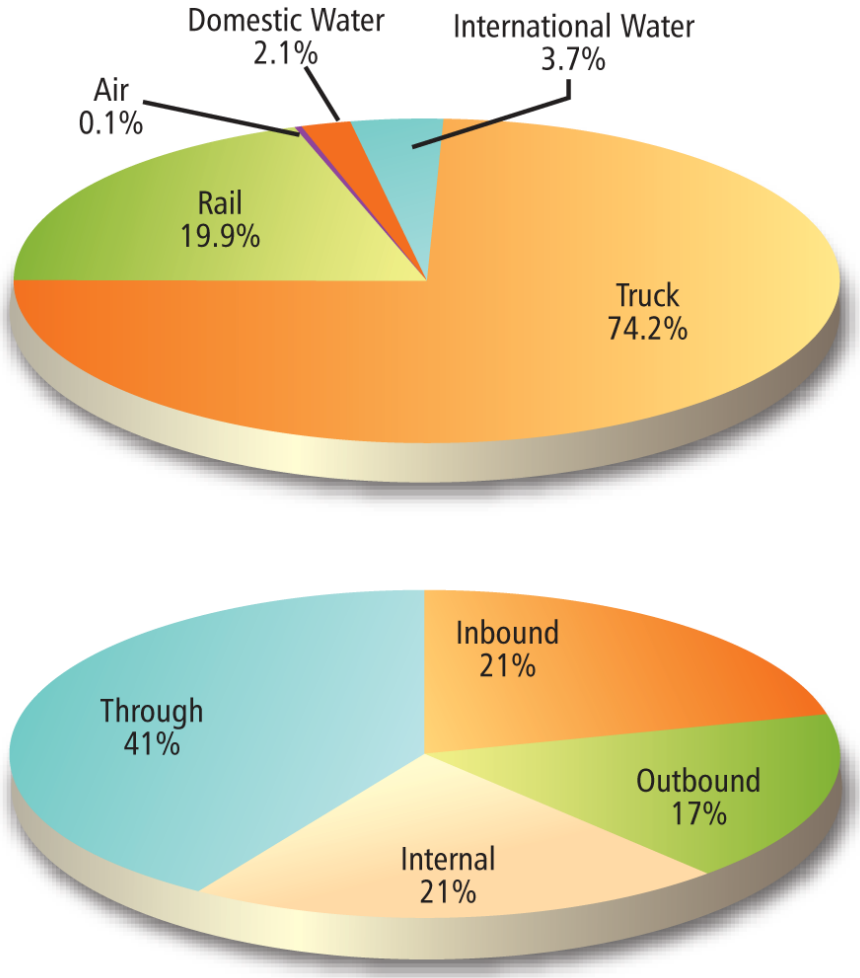


Virginia Highway and Rail Miles

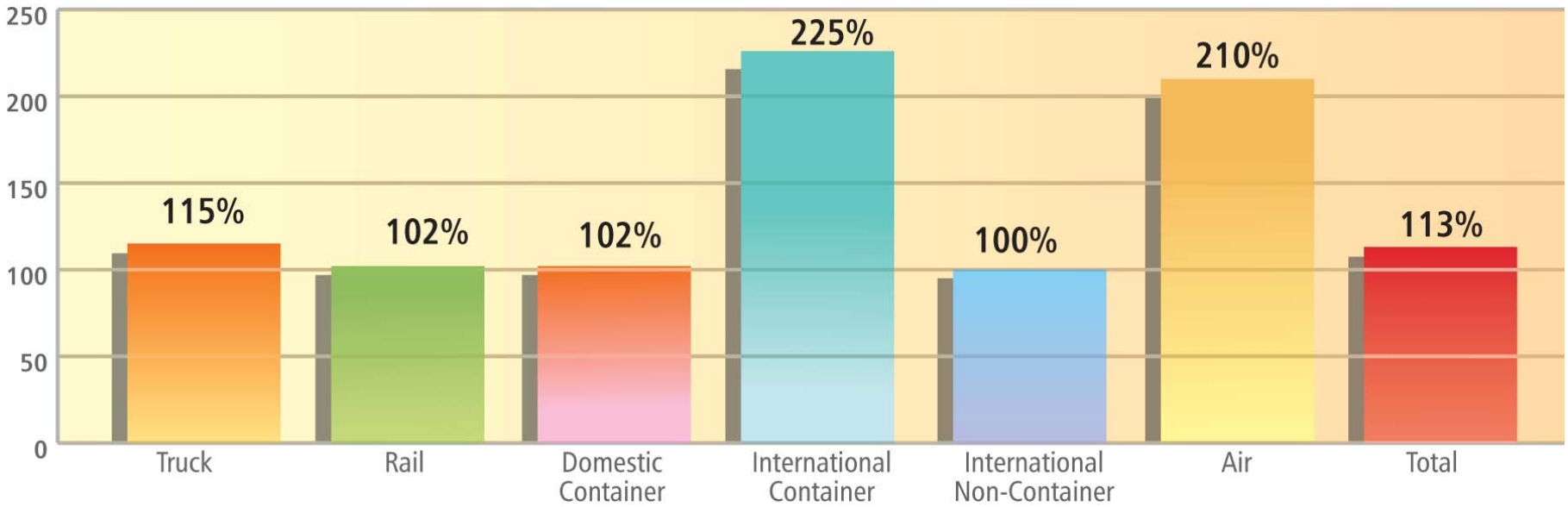


Forecast Year:

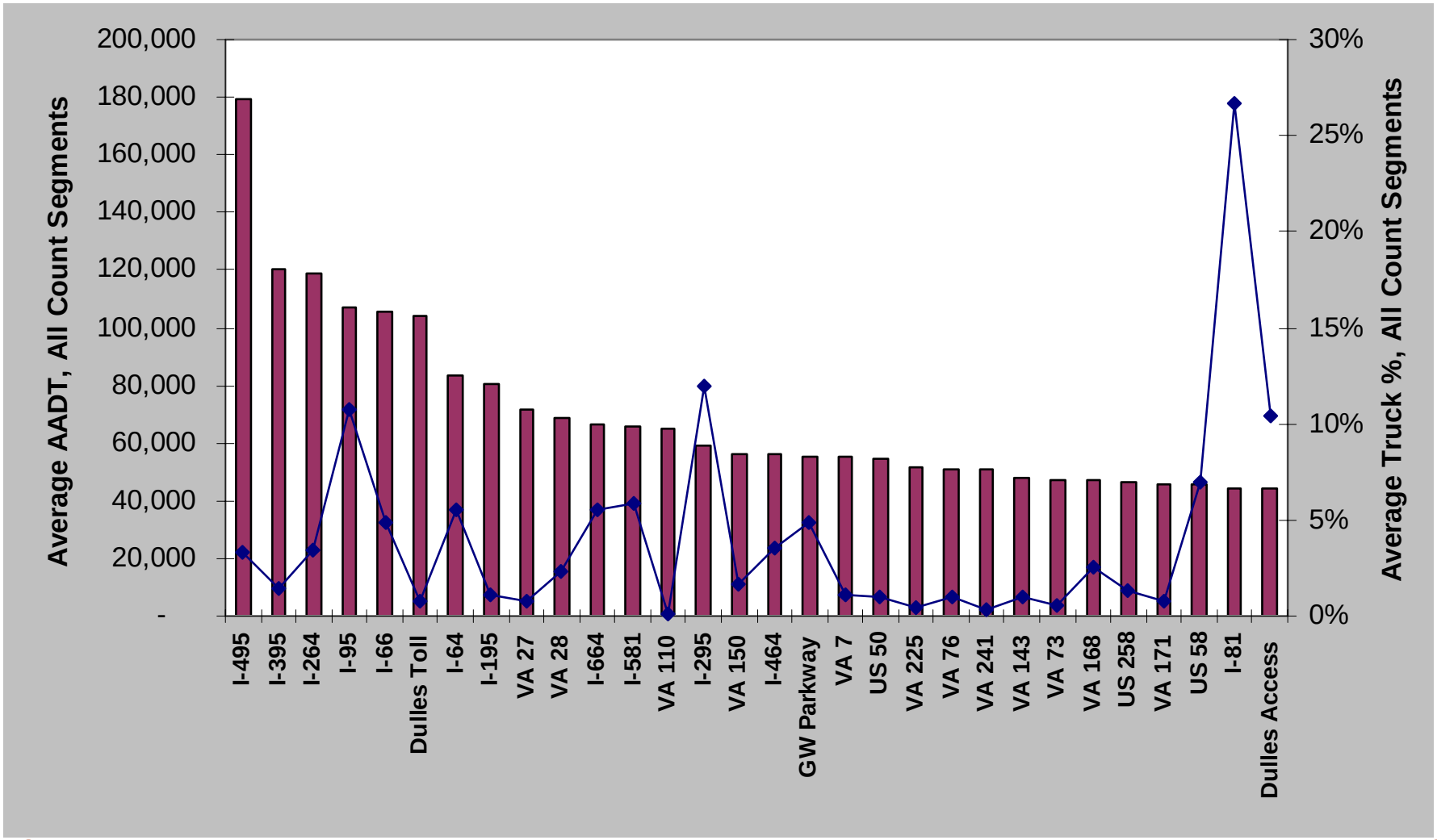
Virginia Freight Tonnage by Mode and Direction (2004)



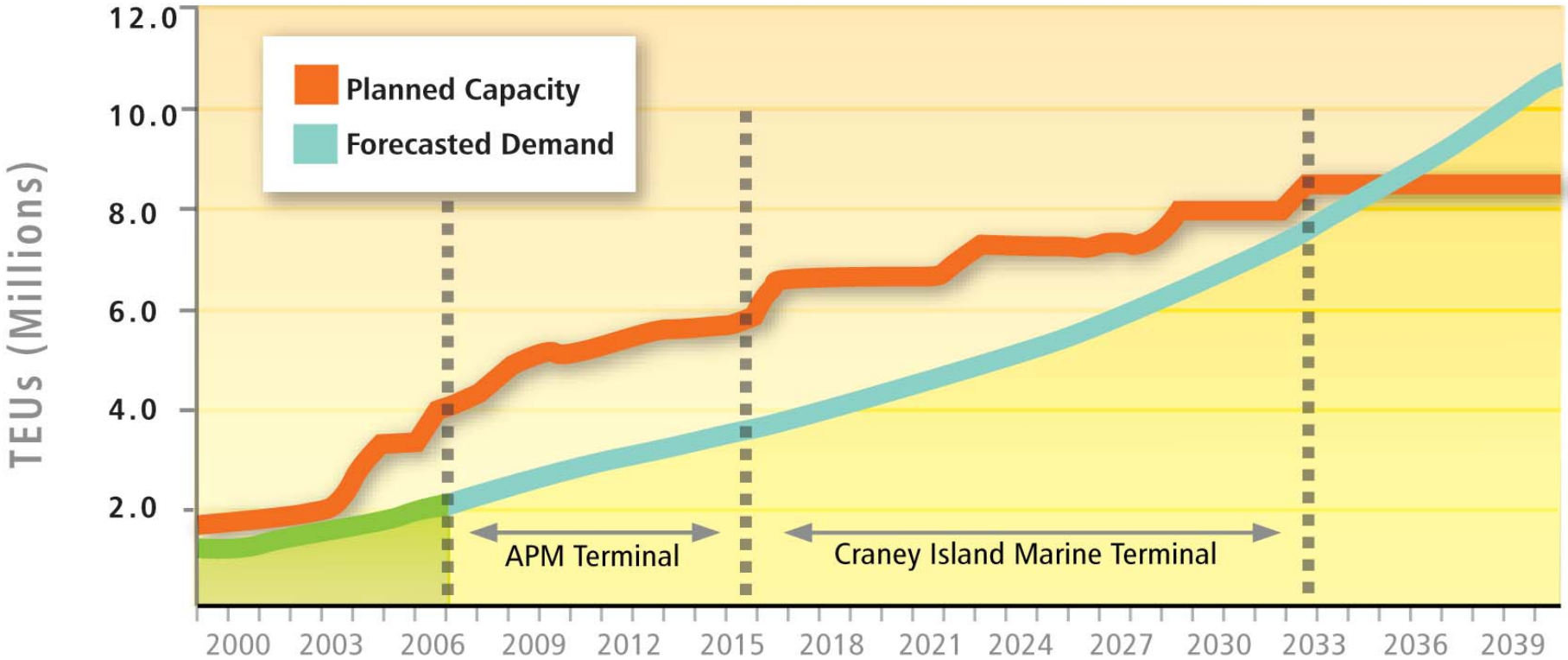
Projected Virginia Freight by Mode (2035)



Average Total AADT and Truck Percentages All count Segments – top 30 Routes (2005)

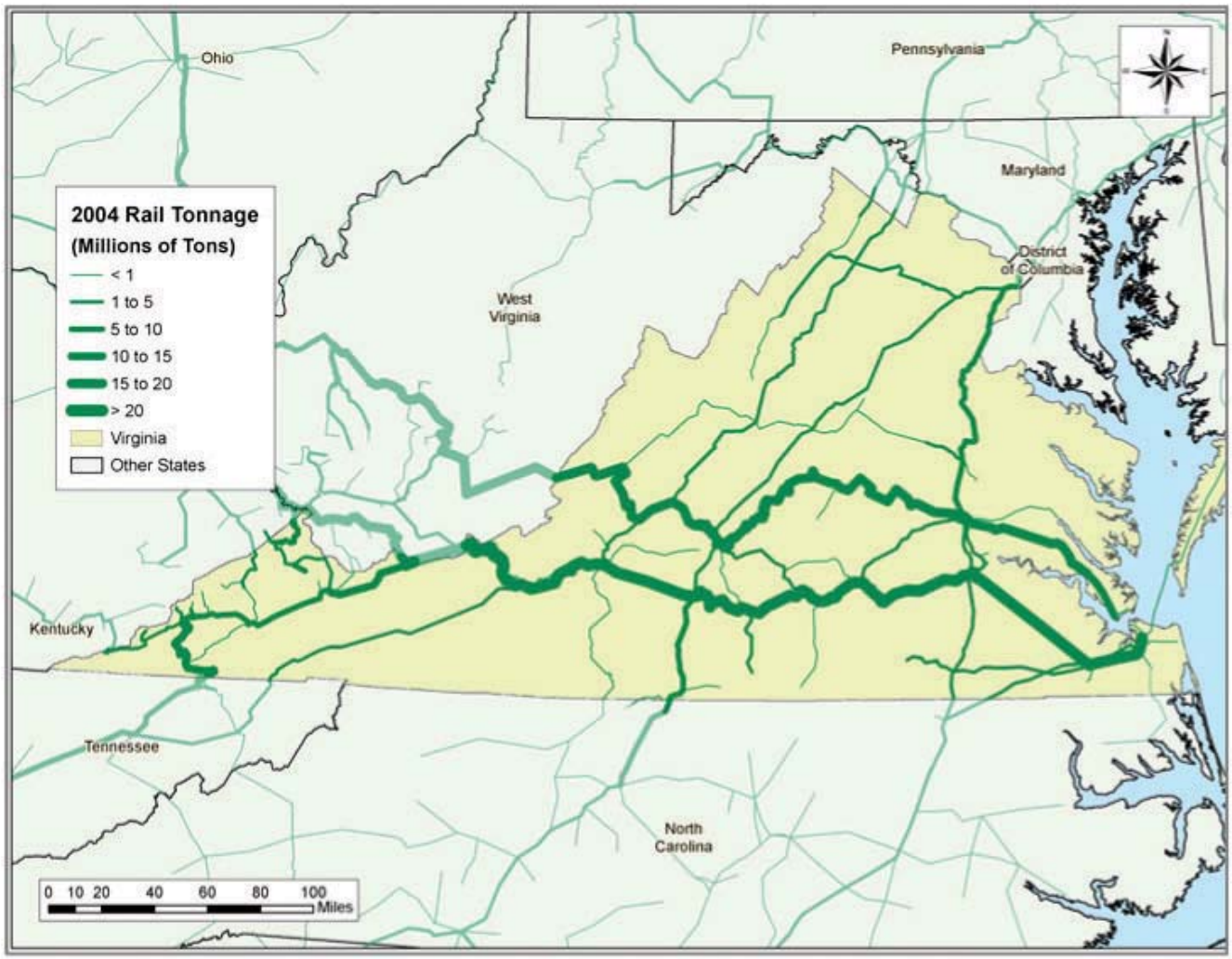


Increase of Containerized Cargo (TEUs) Virginia Ports



Forecast Year: 2006

Virginia Rail Tonnage (2004)



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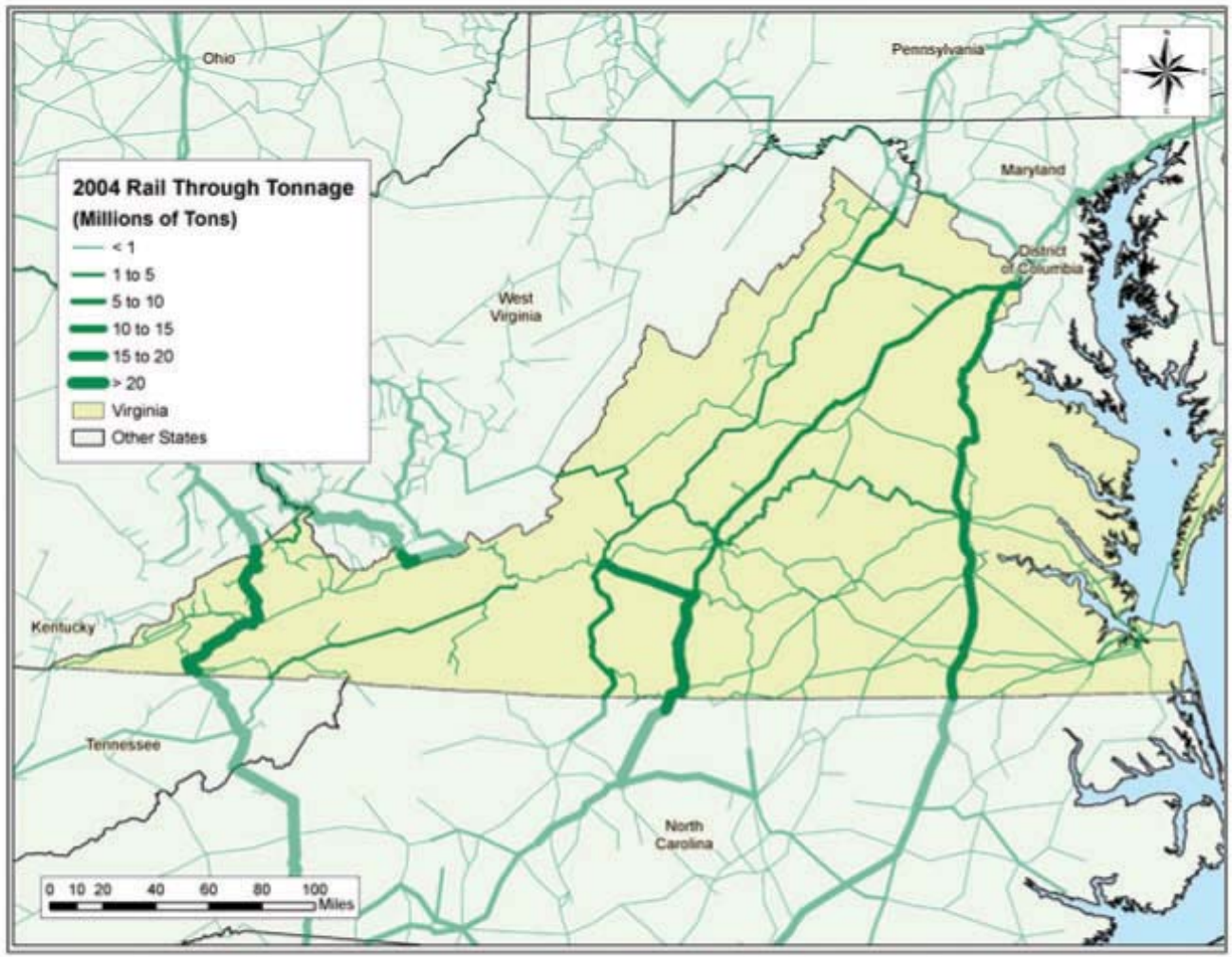
Rail Tonnage Passing Through Virginia (2004)



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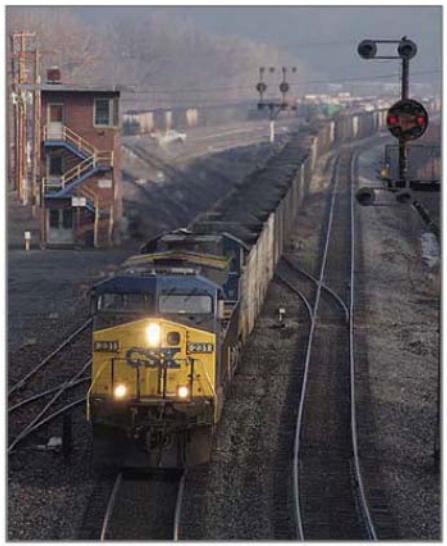
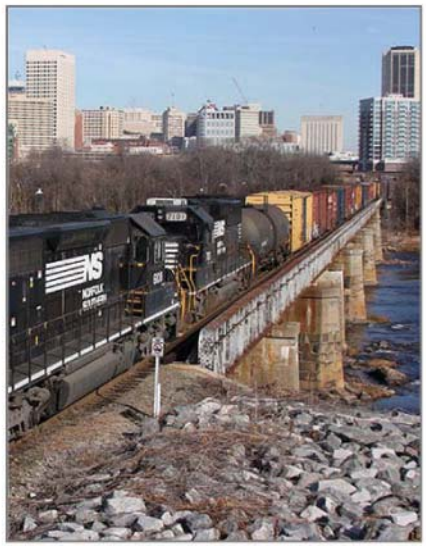
Percentage of Freight Rail Tonnage (2005)





Unit Train 60%

Long trains of a single railcar type and product, like coal -- mostly east-west

Carload 24%

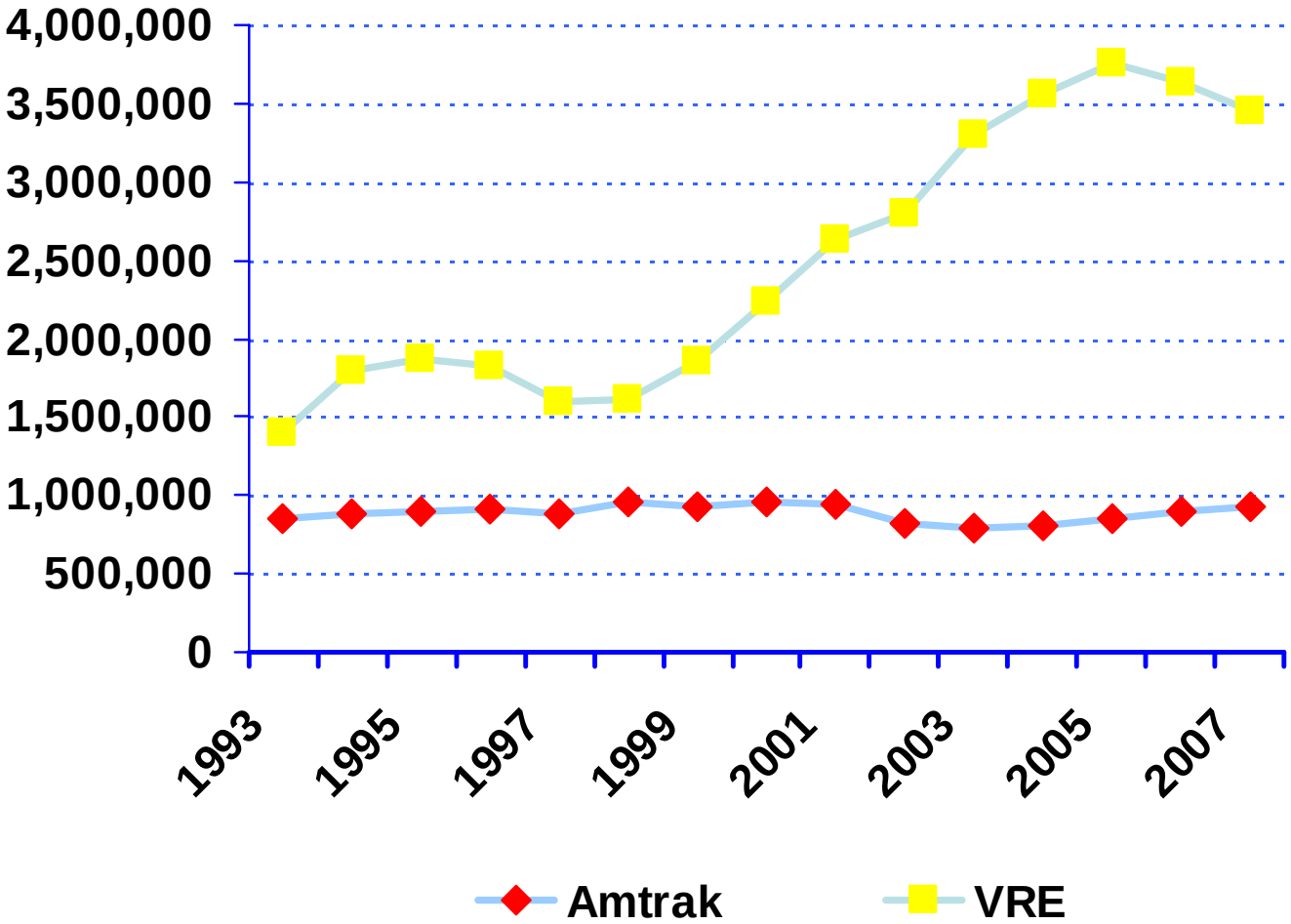
Mixed trains with different railcar types and products --

mostly north-south

Intermodal/Auto 16%

Containers, autos, other on railcars -- a future north-south opportunity

Annual Passenger Traffic (FY 1993-2007)



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Setting the Stage

- The draft statewide rail plan builds on past successes to develop multimodal transportation corridors
- It is consistent with Commonwealth Transportation Policy Goals:
  - Providing a safe transportation system for Virginians
  - Maintaining existing transportation assets
  - Efficient and cost effective movement of people and goods
  - Stewardship of the environment
- It also supports the VTrans 2035 statewide transportation plan update

Setting the Stage

- Virginia rail funding
  - The Rail Enhancement Fund provides approximately $24 million for rail capital improvements annually
  - Rail Enhancement funding was supplemented in 2007 by a 10-year, $124.7 million bond program
  - Rail Preservation funding for shortline railroads is available at approximately $3 million annually
  - Rail Industrial Access funding is available for businesses to connect to freight rail shipping through a shared fund at approximately $5 million annually
  - One-time funding for the I-95 and I-81 rail corridors has provided more than $130 million to improve rail capacity and service reliability

Virginia has participated in the Heartland Corridor Project, a project of national significance that will support and enhance domestic and international trade, and remove 150,000 trucks from Virginia highways.

Four tunnels in Virginia are being cleared to accommodate double-stack rail traffic.

Virginia has allocated over $151.55 million to help increase rail capacity and divert trucks to rail in the I-95 and I-81 corridors.

The new two-track Quantico Creek Bridge opened on Feb. 17, 2007 in the I-95 corridor.

7-10-08

Virginia has participated in the construction of an on-dock rail yard to support the first privately developed marine terminal in North America, APM Terminals Virginia, to move 128,500 containers annually in 2010.

A train carries double-stack rail containers from the port.

Setting the Stage

- Virginia faces a number of challenges:
  - Population growth
    - Outpacing the national average
  - Highway congestion
    - Northern Virginia is part of the second worst region in the country
  - Airline industry limitations
    - No direct connections between Virginia regions and cities
    - Cost prohibitive for travel within the state
  - Passenger and freight rail capacity/demand
    - Rail transportation is approaching the limits of capacity
    - Demand continues to rise
  - Port growth
    - One of the most significant economic engines of Virginia
    - More access to freight rail shipping is needed to accommodate the demand for imports and exports

Setting the Stage

- Understanding the freight rail business:
  - The US is an international leader in freight rail, but lags behind in passenger rail.
  - Freight rail is a very capital intensive industry. From 1995-2004, rail capital expenditures represented 18% of rail revenue compared to 4% for the average manufacturing company.
  - Rail tracks in Virginia are privately owned by freight companies with a responsibility to return shareholder value.
  - Freight rail is at least five times more profitable than passenger rail.
  - Capacity is a commodity for private railroads, and railroads typically focus on capacity replacement (additional tracks) in exchange for access by commuter rail.
  - Private railroads have the power to condemn property for necessary right of way.

Setting the Stage

- Understanding the passenger rail business:
  - Passenger rail typically requires a subsidy.
  - Amtrak, through federal statute, has the right to operate on freight rail lines.
  - Commuter rail operators like VRE do not have that right, and must negotiate with private railroads.
  - The cost of right of way is expensive.
    - VDOT estimates that the cost of acquiring right of way between Washington, DC and Richmond in the I-95 corridor would cost at least $2 billion
  - Passenger rail operators have consistently chosen to access private rail lines rather than building dedicated passenger tracks.

Rail Benefits

- VRE service provides the equivalent capacity of one highway lane on I-95 and I-66 during peak periods.
- One intermodal train can carry up to 280 truck trailers.
- Train travel is 17% more energy efficient than domestic airline travel and 21% more energy efficient than auto travel.
- Traveling by rail contributes fewer greenhouse gas emissions than either cars or airplanes. Passenger rail emits only 0.2% of the travel industry's total greenhouse gases.

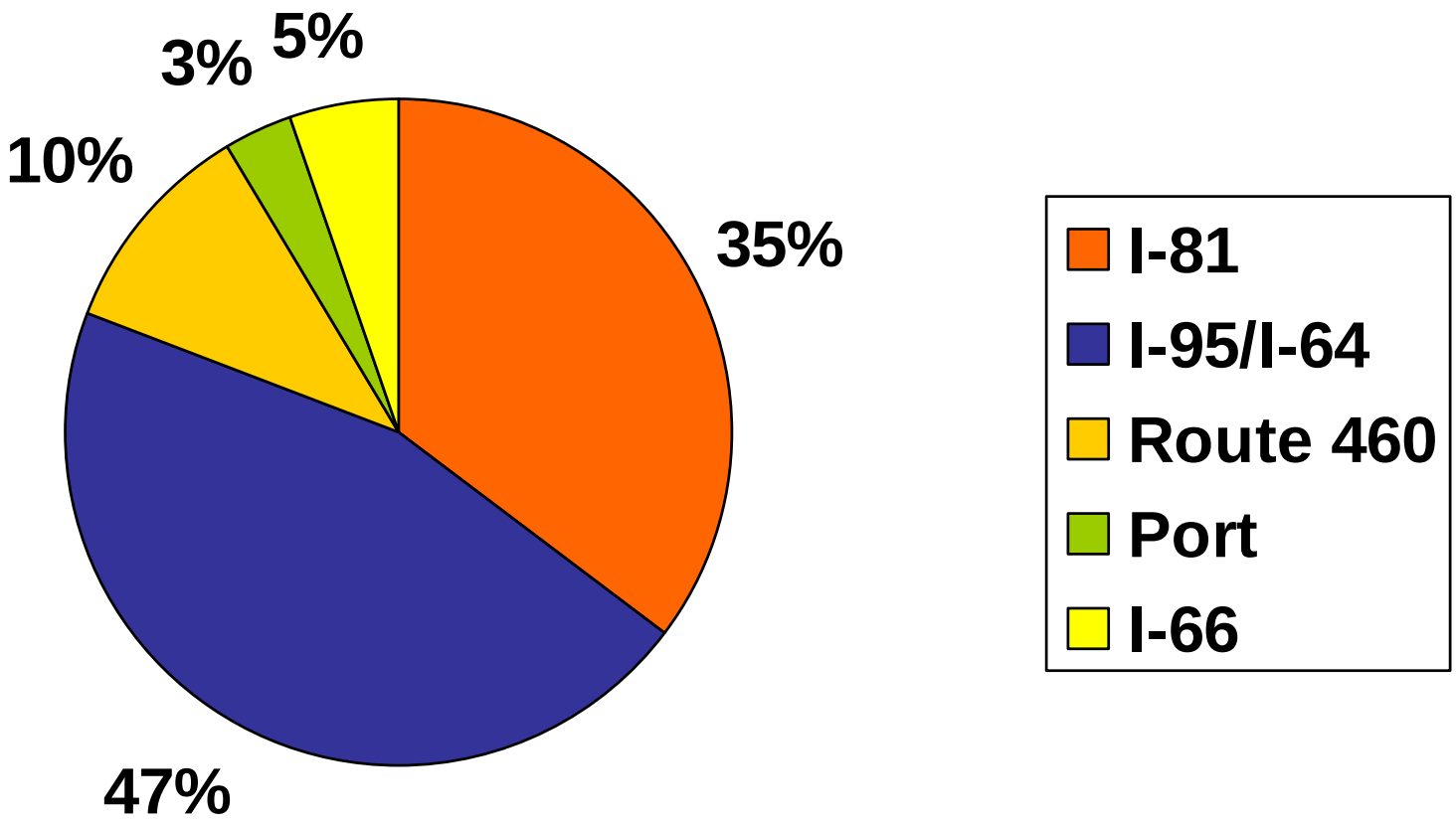
Proposed Improvements

- Projects identified in the draft Statewide Rail Plan will:
  - Focus on corridor management to support diverse needs
  - Provide improvements throughout the state
  - Position Virginia for future growth
  - Support growth at the Ports of Hampton Roads

Cost Assumptions

- Project cost estimates include capital costs only
- All costs are stated in 2008 dollars, without escalation to potential year of expenditure
- No operating or equipment costs are included- these will be identified in the Rail Action Plan
- The Rail Action Plan will include all costs and will have costs escalated based on year of expenditure

Rail Needs by Major Corridor



More than $4.9 billion in needs statewide

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Class I and Shortline Railroad Projects

Class I and Shortline Railroad Project Costs	
Project	**Costs**
National Gateway	$48 million
Crescent Corridor	$1.6 billion
Heartland Corridor	$66.01 million
Coal Corridor	$12.1 million
Shortline Railroads	$68 million
Total Costs	**$ 1.8 billion**

Class I and Shortline Project Results

- Improves freight rail shipping and diverts truck traffic to rail along Virginia highways: I-81, I-95, I-64, I-66, I-85, I-295, I-495 and Route 460, and outside Virginia along major routes such as I-20, I-40 and I-75
- Multistate agreements needed to maximize truck diversion
- Includes construction of rail yards and increases capacity
- Improves shortline rail systems in Virginia to accommodate heavier freight shipments and faster passenger rail service

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CSX National Gateway Corridor (I-95, I-295, I-495)

- Parallels I-95 through Virginia
- Improves efficiency of freight rail shipping from ports of MD, VA and NC and to markets in PA, WV and OH
- Freight benefit: expands capacity, provides double-stack train clearances
- Passenger benefit: improves on-time performance
- Total project cost: $48 million

Removes 130,000 trucks from I-95 Corridor

Saves over 31.9 million gallons of fuel

Saves 61,705 tons of CO_2 emissions

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Norfolk Southern Crescent Corridor (I-81)

- Improves freight rail shipping along I-20, I-40, I-75, I-85 and I-81
- Freight benefit: expands capacity, diverting trucks from congested highways
- Passenger benefit: Could support expanded Amtrak service to Charlottesville, Lynchburg, Roanoke and Bristol, and expanded VRE service from Manassas to Haymarket
- Total project cost: $1.6 billion

Removes 1.6 million trucks (base estimate) from I-81 Corridor by 2035

Saves over 227 million gallons of fuel

Saves 674,000 tons of CO_2 emissions

7-10-08

Norfolk Southern Heartland Corridor (US460) (Phase 1)

- Doubles freight capacity parallel to Route 460
- Freight benefit: cuts 1.5 days of shipping time between Hampton Roads and Chicago
- Passenger benefit: Could support expanded Amtrak service between Washington, DC and Bristol
- Planning has begun on Phase 2
- Total project cost: $66.01 million

Removes 150,000 trucks from Virginia highways

Saves over 20.06 million gallons of fuel

Saves 55,804 tons of CO_2 emissions

7-10-08

Norfolk Southern Coal Corridor (US460)

- Adds additional track capacity parallel to Route 460 between Andover and Green Bay to support projected increases in coal shipments
- Freight benefit: Improves capacity to move coal from coal fields to Hampton Roads and to generating stations in TN, NC, SC and GA
- Passenger benefit: Could support expanded Amtrak service between Washington, DC and Bristol
- As most coal is already carried by rail, no calculations of truck diversion, fuel savings or reduced emissions have been conducted
- Total project cost: $12.1 million

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Shortline Railroad Preservation (statewide)

- Brings all shortline rail systems in Virginia up to Federal freight and passenger standards
- Freight benefit: Improves capacity to handle larger shipments, providing critical business-to-business link
- Passenger benefit: Improves Amtrak service between Orange and Clifton Forge
- Total project cost: $68 million

Port Projects

- NIT Central Rail Yard Expansion
- Craney Island Rail Connection
- Norfolk/Portsmouth Beltline Railroad Improvements

Ports of Hampton Roads Project Costs	
Project	Costs
NIT Central Rail Yard Expansion	$40.15 million
Craney Island Rail Connection	$130 million
Norfolk Portsmouth Belt Line Railroad	$8.75 million
Total Costs	**$178.9 million**

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Port Project Results

- Increases rail capacity and provides competitive port shipping services
- Diverts more port shipments from truck to rail to help manage highway congestion
- Supports the transport of up to 50% of projected containers at Craney Island
- Nearly doubles today's on-terminal rail handling capacity at Norfolk International Terminal
- Improves rail crossing safety

Norfolk International Terminal (NIT) Central Rail Yard Expansion

- Diverts port shipments from truck to rail
- Nearly doubles today's on-terminal rail handling capacity
- Total project cost: $40.15 million

Removes 180,310 trucks from Virginia highways

Saves over 24.3 million gallons of fuel

Saves 47,072 tons of CO_2 emissions

7-10-08

Craney Island Rail Connection

- Three-phase project that builds on I-664/Route 164 Median Rail Safety Relocation Project
- Adds rail capacity to major new port facility
- Supports transport of approximately 50 percent of projected 1.43 million containers through this facility
- Total project cost: $130 million

Removes 848,571 trucks from Virginia highways

Saves over 114 million gallons of fuel

Saves 221,528 tons of CO_2 emissions

7-10-08

Norfolk Portsmouth Belt Line Railroad Improvement

- Complementary to the NIT Central Rail Yard Expansion
- Adds off-site marshalling yard, separating highway traffic from train movements
- Improves operating efficiency of trains traveling to and from the on-terminal rail yard
- Total project cost: $8.75 million

Eliminates 12.852 hours per year of delays (based on 18 train crossings per day) at an existing at-grade crossing at NIT and Hampton Boulevard

7-10-08

Passenger Rail Projects

Passenger Rail Project Costs	
Project	Costs
Commuter Rail Alexandria to Manassas	$8.25 million
Commuter Rail Gainesville to Haymarket	$281 million
Commuter Rail Fredericksburg to Washington, DC	$470 million
Intercity Rail Urban Crescent	$757 million
Intercity Rail TransDominion Express	$206 million
Total Costs	**$ 1.7 billion**

- Commuter Rail Improvements (I-66 and I-95):
  - VRE Alexandria to Manassas (I-66)
  - VRE Manassas to Gainesville/ Haymarket Expansion (I-66)
  - VRE Fredericksburg to Washington, DC (third track)
- Intercity Rail:
  - Urban Crescent Express (I-64 and I-95)
  - TransDominion Express (TDX) (I-81 and Routes 29/460)

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Passenger Rail Project Results

- Supports more frequent service in the Urban Crescent between Washington, DC, Richmond and Newport News
- Supports more frequent service in the Route 29 corridor between Lynchburg and Washington, DC, and implementation of Phase 1 of the TransDominion Express
- Supports expansion of VRE service between Manassas and Gainesville/Haymarket
- Supports new service, station improvements, travel time improvements and more frequent service along existing routes
- Upgrades track and other facilities/infrastructure for higher speed service

VRE Alexandria to Manassas (I-66)

- Upgrades track and improves the reliability of VRE operations by enabling increased train speed
- Total project cost: $8.25 million

Removes 53,091 cars from Virginia roadways

Saves over 24.3 million gallons of fuel

Saves 47,072 tons of CO_2 emissions

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VRE Manassas to Gainesville/Haymarket Expansion (I-66)

- Studies viability and potential locations of future passenger rail stations between Manassas and Gainesville/Haymarket
- Requires extensive upgrading of existing freight line for passenger rail service
- Next steps are additional environmental review and preliminary design
- Total project cost: $281 million

Removes 430,556 cars from Virginia highways

Saves 1.7 million gallons of fuel

Saves 7,756 tons of CO_2 emissions

VRE Fredericksburg to Washington, DC Improvements (I-95, I-395, I-495)

- Expands rail service and improves existing service through signalization, station and rail infrastructure improvements, including:
  - Automatic train control cab signalization
  - VRE second platforms at Woodbridge, Lorton and Rippon Stations
  - Arkendale to Powell's Creek third track and station
  - Capacity improvements between Franconia/Springfield and Fredericksburg, excluding major bridges
- Total project cost $470 million

Removes over 1.4 million cars from the I-95 corridor

Saves over 7.9 million gallons of fuel

Saves 46,877 tons of CO_2 emissions

7-10-08

Urban Crescent Express (I-64, I-95, I-295, Route 460)

- Freight and passenger rail improvements between Fredericksburg, Richmond and Newport News
- Station improvements, including the facilitation of transit-oriented development near stations
- Best passenger rail ridership increase opportunity in Commonwealth, potentially doubling Amtrak corridor ridership by 2015
- Total project cost: $757 million

Removes over 1.3 million cars from Virginia highways

Saves over 9.5 million gallons of fuel

Saves 62,072 tons of CO_2 emissions

TransDominion Express (TDX) (I-81 and Routes 29/460)

- Enhances mobility along the Route 29, I-81 and Route 460 corridors by improving infrastructure to support higher speeds for passenger rail
- Phase I: Washington, DC to Lynchburg
- Phase II: Lynchburg to Roanoke
- Phase III: Roanoke to Bristol
- Phase IV: Lynchburg to Richmond
- Total project cost: $206 million

Removes 53,091 cars from I-81 and Route 29 corridors

Saves over 164,637 gallons of fuel

Saves 983 tons of CO_2 emissions

7-10-08

High Speed Rail Project (I-95, I-295, I-495, I-85, I-64, Route 460)

High Speed Rail Project Costs	
Project	Costs
Southeast High Speed Rail Project	$1.2 billion
Total Costs	**$1.2 billion**

- High speed rail service between Washington, DC and Raleigh, NC
- Total cost does not include the cost of major river and stream crossings
- Total cost does not include the cost of electrification and improvements between Richmond and Washington, DC

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Southeast High Speed Rail Project (I-95, I-295, I-495, I-85, I-64, Route 460)

- Studies higher speed rail connections between Hampton Roads and Richmond's Main Street Station to Washington, DC
- Also studies creating a high speed rail corridor between Washington, DC and Raleigh, NC
- Pending legislation in U.S. Congress could impact feasibility of program
- Total project cost: $1.2 billion

Removes over 1.1 million cars from Virginia and North Carolina highways

Saves over 5.6 million gallons of fuel

Saves 33,713 tons of CO_2 emissions

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Total Project Benefits

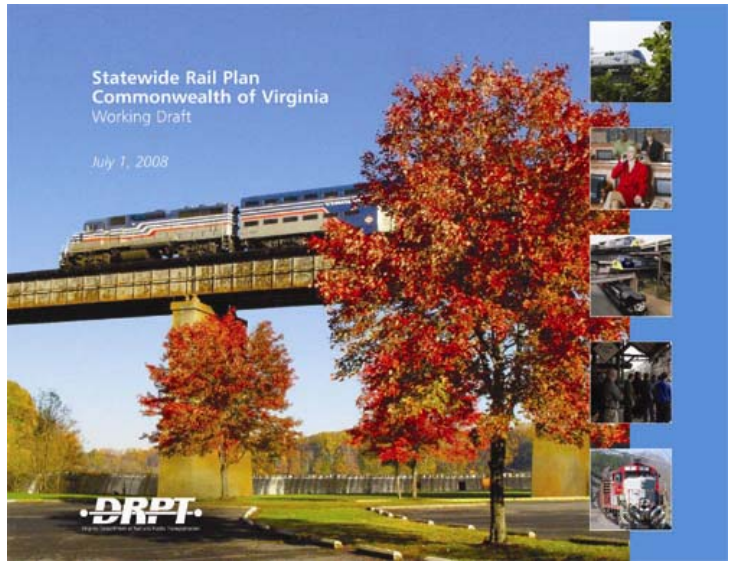
- Total public benefits of the potential projects are as follows:
  - 7.3 million cars and trucks removed from highways
    - Approximately 108% of the total vehicle ownership in Virginia, based on vehicles registered in 2006
  - 445 million gallons of fuel saved
    - Approximately 32 million barrels of oil imported to the US
  - 1.2 million tons of carbon emissions saved
    - Equal to the emissions of approximately 7,000 automobiles per year

Project Funding

- Cost of all proposed projects is approximately $5 billion, and current estimated revenue between 2009 and 2035 is $1.3 billion
- Commonwealth's rail programs foster the sharing of costs and benefits
- Potential sources of funds:
  - Railroads
  - Commonwealth of Virginia, from dedicated funding sources as well as special allocations
  - Local jurisdictions, including current Northern Virginia contribution of 13 percent of VRE operating costs
  - Federal funding, including potential Amtrak bills that include state grants for intercity rail improvements
  - Passenger fares

Next Steps

- Key Actions
  - Draft Plan released for public comment in July 2008
    - Five public meetings statewide
    - Available online: http://www.drpt.virginia.gov
  - Rail Action Plan issued in September 2008
    - Includes funding strategies, proposed allocation of resources and project implementation schedules
    - Public comments accepted
  - Statewide Rail Plan finalized in November 2008



- Future Rail Plan Updates:
  - Six Year Improvement Program yearly update
  - Comprehensive update on a five-year basis as a part of VTrans

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